Change Control Procedure
OETI-PMP-08

Environmental Protection Agency
Office of Enterprise Technology and Innovation (OETI)

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Document Change History

Version	Date	Author	Description of Changes

Contents

1. Introduction

This document defines the process by which staff at the Environmental Protection Agency (EPA)'s Office of Enterprise Technology and Innovation (OETI) performs change control for systems related, non-system requirements, or changes to projects.

1.1 Purpose

This document defines the methodology, process flow, and relevant standards by which OETI project staff performs change control activities and identifies participants and their responsibilities.

1.2 Background

Change control is the process of identifying, documenting, approving, or rejecting and controlling changes to the project's baselines.[1] This procedure defines the change control processes and requirements for the identification and development of Change Requests (CRs), the evaluation of change impacts, and the roles and responsibilities for change approvals. A Change Control Board (CCB) is a formal group of project stakeholders who are responsible for reviewing, evaluating, approving, delaying, or rejecting changes to the project as well as documenting all decisions and recommendations.[2] The change control process applies to those products and services that if changed, would have a direct impact on the project's output (i.e., product, system).

Prior to the development and implementation of a project, the Project Management Plan (PMP) defines the project's key components (see *PMP-02 Project Initiation and Planning Procedure)* including the project Work Breakdown Structure (WBS). *PMP-03 Project Schedule and Cost Baseline Procedure* details the process followed to baseline the project's schedule and its cost. *PMP-07 Requirements Management Procedure* details the process of creating a requirements baseline. Once created, each of these baselines must be placed under configuration control because changes to the WBS and/or requirements are likely to affect the scope of a project, which includes the schedule (critical path), budget, and quality of work. To control and minimize undesired impacts of those changes, the change control process is followed whenever a change to the baselined cost, schedule, requirements, or project activities is requested throughout the life cycle of the project.

Formal change control ensures that proposed changes to the project's processes and requirements follow an orderly process of evaluation and implementation so that traceability and accountability are supported and documented. While any member of the project team or customer staff can request changes or report defects, the appropriate approval authority (i.e., CCB or other) approves changes before they are implemented.

Development and execution of the change control activities are defined in a Change Control Plan. For systems projects development of the plan follows the requirements of the Office of Environmental Information's (OEI) System Life Cycle Management (SLCM) Policy and corresponding procedures for operating and designing agency information systems. The OETI change control procedure adds to the agency's minimum requirements articulated in the SLCM Policy and procedures. The SLCM Policy applies only for system projects and not for non-system projects.

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[1] Project Management Institute. A Guide to the Project Management Body of Knowledge (PMBOK®), Third Edition, 2004, Chapter 4.
[2] *Ibid*.

Change control also plays an important role in configuration management activities for system projects. The change control process is often used to formally control changes to configuration items (such as software code) before changes are made to the configuration management baseline.

2. Approach

This section explains the approach used to develop the change control procedure. It details the assumptions, the degree of scalability of the procedures, and the industry standards, best practices, and EPA current practices consulted in creating this procedure.

2.1 Assumptions

The following assumptions guide this change control procedure:

- A CCB Administrator will be appointed by the Project Manager to facilitate the change control process. The change control process may or may not be the CCB Administrator's only responsibility, depending on the size, scope, and complexity of the project.
- The CCB Administrator will maintain documents using the document management procedures and tools defined for the project. (See PMP-12 Document Management Procedure.)
- For system projects, this Change Control Procedure assumes development of a separate Configuration Management Plan as required by OEI's SLCM policy and related procedures. The Configuration Management Plan should be consistent with the Change Control Process implemented for the project and address software/hardware configuration management (items such as number or environments and use, migration paths, patch application, upgrades, software fix process etc.). The CCB is empowered to approve any proposed configuration management processes, which are dependent on the software implemented.

2.2 Scalability

As part of the project's initiation and planning activities, the Project Manager uses certain criteria to determine whether change control is applied to the project and to what extent. Systems, large projects, and projects with a Project Complexity Model rating of "High" or "Medium" complexity (information regarding the Project Complexity Model and other criteria used to plan the project is provided in *PMP-02 Project Initiation and Planning*) are generally more complex and have a greater likelihood of experiencing unplanned scope change in the absence of a change control process. Therefore, formal change control is typically needed for these projects. However, the extent of change control procedures and the number of resources involved in the change control process can be adjusted based on the unique project requirements, especially for small projects, projects without baselined requirements, or non-systems projects. The project team should evaluate the unique characteristics of the project during the planning process for change control and determine how best to adjust the procedure to address specific project risks and requirements. Table 2.1 below provides guidelines for applying this procedure.

Table 2.1. Change Control Procedure Scalability Guidelines

Procedure	Does the Procedure Apply?	Determining Procedure Scalability
OETI-PMP-08 Change Control Procedure	Applies if a project has a Project Complexity Model rating of "Medium" or "High" Applies if project is a system project or has a defined set of baseline requirements	Procedure is scaled based on number of interdependent activities, the likelihood for cost, schedule or resources changes and need to control them, changes and potential impact to project scope, and the number of risks identified early in the project with potential to impact project scope. These activities need a more formal change control process. CCB needed for system project, less typical for non-

Procedure	Does the Procedure Apply?	Determining Procedure Scalability
		system projects

The CCB process, depending on the project, can be less formal and CCB "meetings" may even occur via email. Small projects may not need a CCB as long as a process is defined for evaluating and approving potential scope changes to the project. The basic steps for review and approval should remain the same, regardless of the size of the project.

2.3 Best Practices

The OETI vision includes the employment of best practices from both industry and the EPA. This procedure incorporates the following best practices and existing regulations and policies:

- **EPA regulations and standards**

- EPA Directive 2100.5, System Life Cycle Management Policy. Available at http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/2100.5.pdf

- The EPA Interim Agency System Life Cycle Management Procedures. Available at: http://intranet.epa.gov/otop/policies/Extended_InterimProcedures.pdf.

– U.S. Environmental Protection Agency, PeoplePlus Configuration Management and Controls (Final), February 2003.

- **Federal regulations, industry standards and best practices**

- Project Management Institute. A Guide to the Project Management Body of Knowledge (PMBOK®), Third Edition, 2004, Chapter 4 and Chapter 5.

- Software Engineering Institute (SEI) Capability Maturity Model Integration (CMMI), CMMI for Systems Engineering, Software Engineering, Integrated Product and Process Development, and Supplier Sourcing, Version 1.1, CMMI-SE/SW/IPPD/SS,

3. Roles and Responsibilities

Table 3-1 presents the roles and responsibilities for OETI project staff involved in change control activities. This table lists functions or tasks that each project role performs. While each role will be assigned to an individual staff member, an individual may perform multiple roles for a project.

Table 3.1. Change Control Roles and Responsibilities

Role	Responsibilities
Project Manager	▪ Acts as the liaison between the CCB and the project team (to include the Configuration Manager, if applicable) to ensure CRs are clarified, communicated, and implemented appropriately ▪ Ensures that appropriate modifications are made to baseline schedule, WBS, and other affected documents resulting from CCB approved changes ▪ Reviews and approves the Configuration Management Plan ▪ Assigns a Configuration Manager
Change Control Board (CCB) Chair	▪ Schedules and presides over CCB meetings ▪ Establishes meeting agenda items and sets priorities for proceedings ▪ Approves and distributes CCB correspondence (e.g., e-mail and meeting minutes) ▪ Serves as CCB Member; Chair's vote breaks a tie among the CCB voting members ▪ Approves Emergency CR(s) according to the CCB charter ▪ Reviews and approves the Configuration Management Plan
CCB Administrator	▪ Assists the CCB Chair ▪ Prepares materials for review by the CCB ▪ Records the disposition of each CR presented to the CCB ▪ Conducts filtering activities for all CRs submitted ▪ Forwards pre-approved CRs to the CCB ▪ Requests further data from CR Submitter (if necessary) ▪ Ensures technical infrastructure (for communication, tracking, documentation) is adequate and available to support the CCB process ▪ Logs and routes Administrative CR(s)
CCB	▪ Reviews submitted CRs for impact to project (scope, quality, budget) ▪ Establishes priorities for CRs ▪ Approves, defers or rejects CRs ▪ Directs Project Manager to perform any actions or follow-up actions with appropriate stakeholders (i.e., communication, research, budgets, etc) ▪ Reviews and approves Configuration Management Plan, if applicable
Configuration Manager	▪ Participates in configuration management planning ▪ Documents configuration management decisions and processes in the Configuration Management Plan ▪ Oversees configuration management activities ▪ Submits configuration change requests (CRs)
Change Request Submitter	▪ Submits a CR by completing a CR Form and provides supporting documentation to justify the need for the change ▪ Provides clarification on the CR to the CCB Administrator and others as needed
Project Team Lead	▪ Filters CR(s) for the CCB ▪ Reviews CRs identified as fixes to current the product, requirement changes or

Role	Responsibilities
	new requirements
Quality Manager	▪ Ensures only approved changes are incorporated into the Requirements Traceability Matrix (RTM) (if applicable) ▪ Audits processes and products at any time during the process
Subject Matter Expert (SME)	▪ Provides insight into a particular problem, issue, or set of issues ▪ Performs analysis and identifies recommended approaches to implementing CRs ▪ Participates in the CCB as non-voting member, as requested ▪ Responds to any action items assigned during the CCB meeting in a timely fashion

4. Procedure

This section presents the process flow for change control for OETI projects and describes each step of the process in detail.

4.1 Process Flow Diagram

Figure 4-1 identifies the process for change control.

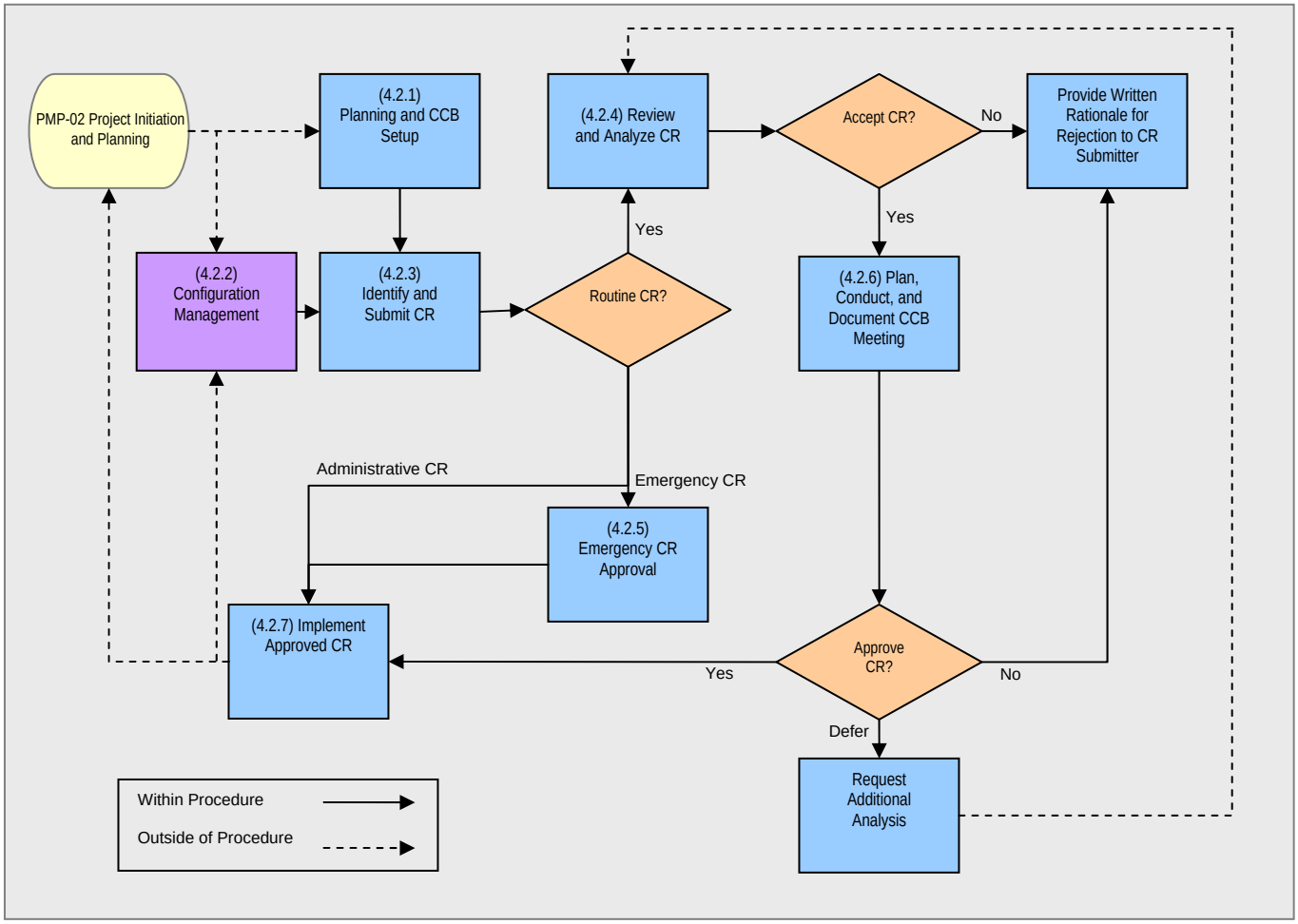

Figure 4-1. Change Control Process Flow

4.2 Steps

The following sections describe the steps of the change control management process shown in Figure 4-1 and the roles involved in its execution.

4.2.1 Planning and Change Control Board (CCB) Setup

During the initial planning phase, the Project Manager determines the scope of the change control process for the project. Large and medium size projects and those with defined requirements generally require formal change control. If the project is smaller and less complex or does not have baselined requirements, the process for reviewing and approving proposed CRs (e.g., review and

approval by the project manager or another stakeholder rather than a CCB) can be less formal and the process is defined and documented in the Project Management Plan.

If formal change control is required, the extent of the process is defined and documented in the Project Management Plan and in the Change Control Board Charter. See *PMP-02 Project Initiation and Planning Procedure* for planning details and Appendix F for a Change Control Board Charter template. For projects requiring formal change control, the Project Manager develops a Change Control Board Charter to define the CCB's mission, activities, assumptions, constraints, etc. As documented in the CCB Charter, the Project Manager identifies and invites potential members to participate in the CCB. Requirements for participation (frequency of meetings, process for reviews and approvals) are provided to the potential CCB participant based upon the Change Control Plan. The Project Manager also assigns the role of CCB Administrator. The CCB Administrator must ensure that the necessary technical infrastructure (for communication, tracking, documentation) is adequate and available to support the CCB process.

Change control activities should be added to the project schedule and resources allocated to those activities. See *PMP-03 Project Schedule and Cost Baseline Procedure* for guidelines on incorporating these activities into the schedule and cost baselines for the project. See *PMP-04 Project Status, Reporting and Forecasting Procedure* to determine the proper process for status reporting these activities throughout the life cycle of the project.

For system development efforts, the CCB Charter is developed in accordance with OEI's SLCM Policy and corresponding procedures. OEI's SLCM Policy requires preparation of a Configuration Management Plan, which includes elements of a CCB Charter, as well as other configuration management functions, such as baseline management and configuration management audits. In this case, the CCB Charter is part of the Configuration Management Plan and OEI policy and procedures guide its development. The Configuration Management Plan is dependent on the software implemented. The Project Manager and the CCB typically approve the Configuration Management Plan.

4.2.2 Configuration Management

Change requests are frequently generated as a result of activities that fall under configuration management. The Project Management Institute defines a configuration management system as "a subsystem of the overall *project management system*. It is a collection of formal documented *procedures* used to apply technical and administrative direction and surveillance to: identify and document the functional and physical characteristics of a *product, result, service* or *component;* control any changes to such characteristics, record and report each change and its implementation status; and support the audits of the products, results, or components to verify conformance to *requirements*. It includes the documentation, tracking *systems,* and defined approval levels necessary for authorizing and controlling changes. In most *application areas*, the configuration management system includes the change control system."[3]

Configuration management activities that focus on controlling the software are often referred to as Software Configuration Management (SCM). SCM is a component of configuration management. According to Wikipedia, "Software configuration management (or SCM) can be divided into two areas. The first (and older) area of SCM concerns the storage of the entities produced during the software development project, sometimes referred to as component repository management. The second area

[3] Project Management Institute, The Project Management Body of Knowledge *(PMBOK®)*, Third Edition. 2004 Glossary, 3. Definitions, p 354.

concerns the activities performed for the production and/or change of these entities; the term engineering support is also often used to refer to this second area."

Configuration management spans many of the project management processes defined in the OETI project management procedures. Configuration control can be formal or informal. Formal control requires that all proposed changes to a project product or deliverable go through the formal change control process defined in this procedure. Document version control is the primary means of informal control and requires that updates or changes to a document be controlled through sequential numbering or naming by the owner and/or project team. Additional methods of informal control (such as project manager reviews) can be defined on a project-by-project basis during change control and configuration management planning activities. Document, and any other forms of informal version control, do not require the submission of a CR. Specific guidance on document version control is included in *PMP-12 Document Management Procedure*. Table 4-1 provides information on the project management procedures and related processes that require some degree of configuration management.

Table 4.1. Processes Subject to Configuration Management

Procedure	Processes	Configuration Control Required
PMP-01 Procedure Development Guide	Changes to the procedures	Informal document version control
PMP-02 Project Initiation and Planning Procedure	Changes to Project Scope	Formal change conrtol
	Changes/Updates to the Project Management Plan	Informal document version control
PMP-03 Project Schedule and Cost Baseline Procedure	Changes/Updates to the project schedule and cost baselines	Formal change control
PMP-04 Project Status, Forecasting and Reporting Procedure	Re-baselining	Formal change control
PMP-07 Requirements Management Procedure	Changes to Baseline Requirements	Formal change control
PMP-08 Change Control Procedure	Change Request submissions	Formal change control
PMP-10 Document Management Procedure	All plans, project artifacts and deliverables	Informal document version control

Numerous management plans, project documents and deliverables are generated as a result of project processes defined in the project procedures. Any item that requires configuration control is referred to as a Configuration Item (CI). Appendix H provides examples of common configuration items for system projects as well as the appropriate level of configuration control applied.

4.2.2.1 Develop Configuration Management Plan

During the initial planning phase, the Project Manager makes a determination on whether the project is a system project and requires the development of a Configuration Management Plan. The

Configuration Management Plan may be developed later in the planning phase as there are several key inputs (such as the software to be implemented) that may be undecided in the early phases of planning. In addition, if a contractor is tasked as the integrator, the Configuration Management Plan may be an assigned deliverable. A sample Configuration Management Plan Template is included in Appendix G. Decisions related to configuration management include the following items:

- Assignment of a Configuration Manager (by the Project Manager)
- Roles and responsibilities of project team members for configuration management activities
- Understanding of coordination between change control and configuration management processes (If formal change control processes have not yet been defined then the team needs to define the process)
- Configuration items subject to change control
- Baseline definition that defines the contents of the CM baseline
- Number of environments needed and how these will be used
- Configuration management tools to be used to support CM processes
- Configuration status accounting details
- Release management process
- Type, frequency and responsibility of CM audits to be performed
- CM reporting requirements (as applicable)

Once the decisions have been made and the processes defined, they are documented in the Configuration Management Plan by the Configuration Manager. The Plan is reviewed and approved by the Project Manager and the CCB.

4.2.2.2 Implement and Maintain Baseline

Once the CM decisions are finalized and the processes defined, the Configuration Manager works with their team to implement the configuration management processes and controls and establish a configuration management baseline. If a tool is selected to support configuration management activities, then many of the processes may be driven by the tool and setup of the tool is often part of the implementation activities. The baseline, as well as the processes followed to transition to a new baseline are defined in the Configuration Management Plan. A sample Configuration Management Plan template is included in Appendix G.

4.2.2.3 Submit Change Requests (CRs)

The submission of Configuration Change Requests (CRs) should be consistent with the change control process defined for the project. The submitter should be the Configuration Manager or a member of their team. The standard CR form is used for submission of requests and they are reviewed systematically by the CCB in the regular meetings. However, emergency CRs (defined in more detail in Section 4.2.3) can also originate from configuration management activities and are routed in the same manner. As requests are reviewed and approved by the CCB, the team implements the changes and updates the configuration management baseline as defined in the Configuration Management Plan. A sample template is provided in Appendix G.

4.2.3 Identify and Submit CR

Any of the project's stakeholders can submit a CR following the procedures established in the Change Control Plan. Appendix E provides a sample CR form while Appendix C provides additional resources, including sample templates. The CR Submitter should include any documentation that supports the need for the change. The formal request includes the following information:

- Submitter Name*
- Project*
- Date*
- Priority[4]
- Change Description*
- Justification for change*
- Impacts to cost, schedule, and quality
- Review and assessment of alternatives
- Cost-benefit analysis
- Risk assessment

** Indicates mandatory information*

CRs can be classified as Emergency, Administrative, or Routine by the CR Submitter. Some CRs require immediate action to meet designated milestones or timeframes for the project. In these cases, project progress is either halted or adversely impacted to a significant degree without the approval and implementation of the emergency change request. Administrative CRs refer to those that are simple changes requiring little or no formal analysis (such as changing a help desk protocol.) All other CRs fall into the category of Routine CRs. All CRs, irrespective of their categorization, are logged by the CCB Administrator into the project's change control log or tracking mechanism.

After logging the CR, the CCB Administrator routes it according to whether it is a Routine CR or not. Routine CRs follow the main line path depicted in Figure 4.1. In the case of an emergency, the CCB Administrator escalates the CR immediately to the CCB Chair, who expedites the approval process per the steps defined in Section 4.2.5. The CCB Chair corresponds directly with the CCB Administrator to ensure that all decisions are documented appropriately. Administrative CRs are readily implemented without review by the CCB or the CCB Chair after being logged by the CCB Administrator. All approved CRs (regardless of type) should be tracked and available for review via reports. The frequency and types of reports reviewed by the CCB is determined during change control planning activities.

4.2.4 Review and Analyze CR

The CCB Administrator reviews the details in the CR to determine whether sufficient information has been provided to act on the request (i.e., forward to the CCB). If there are any ambiguities, the CCB Administrator will request clarification from the CR Submitter.

If, after a preliminary review of the CR, the CCB Administrator feels that more analysis is necessary for the CCB to make an informed decision, the CR is forwarded by the CCB Administrator to the appropriate SME(s) if known, or returned to the Project Manager for assignment to the appropriate

[4] Prioritization criteria are determined by the Project Team.

SME resource with a specific request for additional information. The SME reviews the request and provides the impact information or estimates the level of effort required to implement the CR(s), depending on the nature of the request. In analyzing the CR, the SME, along with the Project Manager, should:

- Assess the magnitude of the CR's impact by documenting any risks, dependencies, issues, assumptions, or decisions associated with its implementation
- Assess the impact to the budget and schedule associated with implementing the CR.

During the review of the CR, if the CCB Administrator determines that the CR is not justified, he or she terminates the CR with the rationale for rejection documented in the change control tracking mechanism and notification sent to the CR Submitter. The CR Submitter has the option to review and modify the request and to resubmit it for a subsequent review.

If the request is complete and meets the criteria for CCB submission the CCB Administrator forwards the CR to the CCB Chair, who notifies CCB members and schedules a CCB meeting or adds the CR to the agenda for the next scheduled meeting.

4.2.5 Emergency CR Approval

If a CR is designated as an Emergency CR, it is routed to the CCB Chair after being logged for expedited approval. The CCB Chair reviews the CR and determines if additional information is needed from the CR Submitter. If so, the CCB Chair contacts the CR Submitter and requests additional information. If not, the CCB Chair may approve the Emergency CR or convene a meeting with the Project Manager and/or Sponsor to assess impact and approve the CR. Once approved by the CCB Chair, the CR is routed to the proper individual or team for implementation. The CCB Chair coordinates with the CCB Administrator to document the activity. This information is reviewed by the CCB during the next formal meeting.

4.2.6 Plan, Conduct, and Document CCB Meeting

The CCB Administrator assists the CCB Chair in planning the logistics for the CCB meeting, including date, time, and location. The frequency of meetings is determined by both the Change Control Plan and the number and scope of CRs; however, CCB meetings should occur periodically throughout the life cycle of the project. In addition, the CCB Chair may convene *ad hoc* CCB meetings to address emergency situations. Prior to the meeting, the CCB Administrator prepares an agenda and sends it along with the proposed CRs and any accompanying analysis to the CCB for review.

During the CCB meeting, CCB Members perform the following activities as necessary:

- Review, evaluate, and discuss new or deferred CRs
- Vote on each CR presented
- Prioritize and assign approved CRs to an upcoming software release, project activity, or phase (depending on the nature of the CR)
- Reprioritize existing CRs as needed.

A quorum, typically defined as 60% of the CCB members, must actively participate in voting to pass a disposition. If a unanimous decision is not attained, the decision follows the majority vote. The CCB Chair's vote serves to break a tie. The CCB approves, defers, or rejects a CR as follows:

- **Approve.** If the CCB accepts the CR, the CCB assigns it a high, medium, or low priority to provide guidance on sequencing the implementation of the CR. The CCB

Administrator forwards the details to the Project Manager for inclusion in the project's plan. See *PMP-02 Project Initiation and Planning* and *PMP-03 Project Schedule and Cost Baseline Procedure* for details on how to incorporate the approved change. The CR approval documentation includes the CCB's justifications and any additional resources (budget, etc.) required.

- **Defer.** If the CCB determines that the information provided to support the CR is not adequate or substantial enough to make a decision or that the timing of the request is not appropriate, it assigns the request a status of deferred and assigns it to a project team member to conduct further analysis. The CCB Chair adds the deferred CR as an action item to the project's action item log to ensure it is addressed and re-presented to the CCB at a future date.
- **Reject**. If the CCB does not accept the CR as valid, the CCB returns the CR to the CR Submitter and provides the rationale for rejection in writing.

The CCB Administrator (or his/her designee) takes minutes of each meeting to include the agenda, list of attendees, a summary of activities and action items, decisions made, and a prioritized list of all CCB-approved CRs.

After the CCB meeting, the CCB Administrator updates the status of each CR in the CR log or action item log, if further action is required. The CCB Administrator also notifies the CR Submitter and appropriate project management team and contractor project staff in writing of the disposition of the CR (approved, rejected, or deferred).

Depending on the formality of the change control process and what is permissible as documented in the Change Control Plan, it may be possible for the CCB to meet and vote on some actions via email. This can be an especially effective method of processing administrative CRs. Consistent with the CCB Charter, this method typically has the following conditions:

- The voting CCB members receive an e-mail of CR(s) to be approved
- The voting CCB members agree unanimously that the CR(s) should be considered for voting using this method, because it does not allow for interactive discussions
- The CCB Administrator archives all e-mails to document the CCB's approval.

The CCB Administrator compiles a document with all CCB emails attached to serve as the "minutes" of an email CCB. If the CCB does not render a unanimous approval via the email vote, the disposition of the CR gets noted in the log by the CCB Administrator and the CRs, which are now considered deferred actions, are placed on the CCB agenda for a face-to-face meeting.

4.2.7 Implement Approved CR

The Project Manager ensures that the appropriate Project Team Lead (responsible for activities that are impacted by the CR) receives the approved CR and implements the CR. This process begins with project re-planning activities, as specified in *PMP-02 Project Initiation and Planning Procedure,* which provides guidance for developing and updating the Project Management Plan. Subsequent activities will be triggered from that point, implementing other procedures to update affected documents and processes, such as Procurement Management, Requirements Management, Quality Assurance Plan, or others. The Project Manager and the appropriate Project Team Leads should review the assessed impact of the change to these documents and processes and initiate the appropriate procedures to fully incorporate the change. The Project Manager ensures that required changes to plans and baselines are implemented.

5. Considerations

The following provides a list of general best practices that should be considered when conducting change control:

- The CCB should include a representative from all major stakeholder groups who could be affected by this project and play a role in the success of implementing the project (e.g., technical and business representatives for systems development projects). There may be instances where several stakeholders in one or more functional areas are needed for additional analysis or reviews, in order to help provide the necessary information to the CCB for decision making. These SMEs are typically not voting members but serve in an advisory capacity.
- The CCB should meet on a regular basis and the activities related to meetings and change control activities should be reflected in the project schedule to ensure that these events are planned and implemented.
- Develop a CCB charter to formalize the CCB entity and establish common vision, clarity of mission, roles and responsibilities and operating protocol.
- Ensure technical infrastructure is ready to support the process (i.e., emails, teleconferences, tracking systems, etc.), with adequate back-up plans for unexpected technical difficulties.
- Because this critical function potentially involves assembling many stakeholders, execute meetings as efficiently as possible, using agendas, minutes, etc., so that decisions can be made and outcomes implemented in a timely manner.
- The Quality Assurance Group should be involved in configuration management audits by either reviewing the results or actually conducting the audits. The approach should be documented in the Quality Management Plan.

Appendix A Acronyms

Abbreviation	Description
CCB	Change Control Board
CI	Configuration Item
CMMI	Capability Maturity Model Integration
CR	Change Request
DO	Delivery Order
EPA	Environmental Protection Agency
IPPD	Integrated Product and Process Development
OEI	Office of Environmental Information
OETI	Office of Enterprise Technology and Innovation
PMBOK®	Project Management Body of Knowledge
PMP	Project Management Plan
RTM	Requirements Traceability Matrix
SEI	Software Engineering Institute
SLCM	System Life Cycle Management
SME	Subject Matter Expert
TO	Task Order
WA	Work Assignment
WBS	Work Breakdown Structure

Appendix B Change Control Checklist

The following provides a checklist for the key activities associated with each step of this change control procedure.

Activities	Responsible Parties
4.2.1 Planning and CCB Setup	
❑ Scope and extent of change control process for the project are determined ❑ Change control activities are reflected in the project schedule and resources are assigned ❑ For projects requiring formal change control, a Change Control Board Charter is developed ❑ CCB Administrator role is assigned (if applicable) ❑ Members of CCB are invited or assigned for the project (if applicable)	Project Manager
❑ Change control process for project is documented in the Project Management Plan and/or the CCB Charter	Project Manager/Project Team Lead
❑ Technical infrastructure (for communication, tracking, documentation) is adequate and available to support the CCB process	CCB Administrator
❑ Configuration Management Plan is reviewed and approved, if applicable and as developed	CCB
4.2.2 Configuration Management	
❑ Configuration management planning is conducted	Project Manager, Configuration Manager, Project Team Leads
❑ Configuration management decisions and processes are documented in the Configuration Management Plan	Configuration Manager
❑ Configuration Management Plan is reviewed and approved, if applicable and as developed	Project Manager, Configuration Manager
❑ Configuration management processes are implemented	Configuration Manager
❑ Configuration management baseline is defined	Configuration Manager
❑ Configuration CR(s) are submitted	Configuration Manager
4.2.3 Identify and Submit Change Request	
❑ CR(s) are submitted	CR Submitter
❑ CR(s) are logged into the project's change control log or tracking mechanism ❑ CR(s) are routed accordingly	CCB Administrator
❑ CR includes mandatory information as specified in section 4.2.2, as well as the following information, as appropriate: □ Priority (proposed for CCB consideration) □ Supporting documentation □ Description includes justification and/or rationale for change □ Impact to cost, schedule, and quality □ Cost-benefit analysis	CR Submitter, CCB Administrator

Activities	Responsible Parties
▫ An assessment of alternatives ▫ Risk assessment	
❑ Direct correspondence between CCB Chair and CCB Administrator is occurring to ensure that all decisions are documented appropriately	CCB Administrator, CCB Chair
4.2.4 Review and Analyze CR	
❑ Clarification is sought from CR submitter if needed to clear up ambiguities ❑ If a determination has been made that it is not justified, termination of CR is documented in the change control tracking mechanism and CR Submitter is notified of CR termination	CCB Administrator
❑ CR(s) are analyzed and the following information is documented to assess the magnitude of the impact of the CRs: ▫ Risks ▫ Dependencies ▫ Assumptions ▫ Decisions	CCB Administrator, SMEs
❑ Impacts to the budget and schedule associated with implementing the change are analyzed and documented	CCB Administrator, SMEs, Project Manager
❑ CCB members are notified of scheduled CCB meetings	CCB Chair
4.2.5 Emergency CR Approval	
❑ Emergency CR(s) are routed to the CCB Chair for expedited approval ❑ Emergency CR(s) approval and implementation information is documented	CCB Administrator
❑ CR(s) are reviewed for completeness and returned to CR Submitter if more information is needed	CCB Chair
❑ Meeting is convened (as needed) for review and approval	CCB Chair, Project Manager, Project Sponsor
❑ CR(s) are approved and routed for implementation	CCB Chair, Project Manager, Project Sponsor, Project Team Lead(s)
4.2.6 Plan, Conduct, and Document CCB Meeting	
❑ Logistics are planned for the CCB Meeting, including date, time and location ❑ Meeting Minutes are prepared and distributed	CCB Administrator, CCB Chair
❑ Proposed CRs and any accompanying analysis are sent to the CCB for review prior to the meeting ❑ Agenda is prepared ❑ Action Items are identified and documented ❑ CR status is updated in the CR tracking mechanism ❑ Notified the CR Submitter and appropriate project management team and contractor project staff in writing of the disposition of the CR (approved, rejected, or deferred)	CCB Administrator
❑ A quorum is present at each vote	CCB Chair

Activities	Responsible Parties
❑ The following objectives are addressed at the CCB meeting: □ New CRs reviewed □ CRs voted upon, with an outcome of approve, reject, or defer □ CRs prioritized and assigned □ Existing CRs reprioritized as needed	CCB Chair, CCB members
4.2.7 Implement Approved CR	
❑ Approved Routine CR(s) are communicated to responsible parties (i.e., Team Leads) for implementation ❑ Project re-planning activities are initiated based on required change(s), referencing PMP-02 procedure ❑ Required changes/baselines are implemented	Project Manager
❑ Administrative CR(s) are implemented	Project Team, others as needed
❑ Impact is reviewed based on affected areas of the project, resulting from initial re-planning activities ❑ Project documents are updated if affected by changes	Project Manager, Team Leads, others as needed

Appendix C Additional Resources

The links below provide additional background, guidance and samples for change control activities:

Form/ Guidance	Source	Website
Sample Change Control Checklist	State of Texas Department of Information Resources	http://www.dir.state.tx.us/eod/qa/monitor/changemt.htm
Sample Change Control Form Template	State of Washington	http://isb.wa.gov/tools/pmframework/templates/changemgmtform.doc
Sample Change Control Background and Information	State of Texas Department of Information Resources	http://www.dir.state.tx.us/eod/qa/monitor/index.htm
Configuration Management Definitions, Tools and Links	Wikipedia Online IT Resource	http://en.wikipedia.org/wiki/Configuration_management

Appendix D Interface Requirements

The purpose of this appendix is to provide general guidelines for collecting the appropriate information from contractors to ensure seamless integration of project data and promote efficient monitoring of the overall project. Frequently, data is needed by support contractors to enable the Project Manager to accurately assess real-time status against overall performance, schedule and cost objectives and this is particularly true with regard to the change control process. In addition, the interface points among the different parties, both government and contractor, need to be fully delineated to ensure that each party understands their specific role and responsibility in data management and reporting and that the information can be efficiently captured utilizing the project's established management processes and tools. As a result it is essential that these data, reporting, and interface requirements be well defined early in the process in order to ensure that they are fully delineated in the awarded contract, Work Assignment (WA)s, Delivery Order (DO)s, and/or Task Orders (TO)s. In addition, the frequency, format and mode of submission for the different reporting requirements also need to be defined within the contract or WA, DO, or TO.

The following series of questions is provided to help determine the data, reporting and interface requirements that may be required for support of the change control process defined for the project. Overall the questions are designed to help refine what kind of information will be needed to ensure effective change control and scope management of the project and the correlating responsibilities of the contractor.

- Will the contractor be able or required to identify and submit change requests?
- What level of detail is needed on the change requests?
- What data elements must be provided?
- Will the contractor need training or guidance on how to submit a change request?
- Will the contractor need access to a specialized tool or site for accessing and submitting change requests?
- Will the contractor be required to obtain approval for the CR prior to submission?
- Will the contractor be required to submit documentation to support (such as cost and schedule impacts) the CR?
- Will the contractor be required to provide a representative to sit on the CCB?
- Does the contractor have specific subject matter expertise that may require participation in CCB meetings?
- Does the contractor have a role with regard to baselined project requirements (e.g., maintaining traceability, testing products etc.) where the scope of their work may be impacted by approved CRs?

Related to the Change Control process, a Configuration Management Plan is typically required for systems projects. The Plan is often the responsibility of the team developing or implementing the software. If an integrator is contractually responsible, it may be the assigned to the integrator as a contract deliverable. The plan typically includes the processes that the project will follow for controlling software and hardware code and patches. The process for controlling versions of project deliverables may also be included if it is within the scope of responsibilities. Additional questions about the contractor's responsibilities with respect to Configuration Management follow:

- Will the contractor be required to perform configuration management functions that must interface with the Change Control process? If so, what tool or toolset does the contractor propose to support configuration management functions?
- Will the Contractor be required to complete a formal Configuration Management Plan (this typically applies only to systems projects where the integrator has responsibility for development or implementation of software)? If so, the contractor must prepare the plan in accordance with OEI's SLCM policy and procedures, other related agency standards or guidance and be consistent with the change control process adopted for the project.

Appendix E Sample Change Request Form

This appendix provides a sample[5] Change Request Form that may be used and/or tailored as appropriate according to project needs.

<table>
<tr><td colspan="6">*Project Name* - Change Request (Page 1 of 2)</td></tr>
<tr><td colspan="4">1. Change Request (CR) Number</td><td colspan="2">2. Date of Request</td></tr>
<tr><td colspan="2">3. Projected CCB Date</td><td colspan="4" rowspan="2">4. Change Request Code
Defect Enhancement

Mandate (Check one)
Legal Regulatory Agency</td></tr>
<tr><td colspan="2">5.Priority

Critical Routine Administrative</td></tr>
<tr><td colspan="4">6. Originator’s Organization Symbol/Location/Phone</td><td colspan="2">7. Originator’s Name</td></tr>
<tr><td colspan="4">8. Change Title</td><td colspan="2">9. Baseline Item</td></tr>
<tr><td colspan="6">**PRIORITY 1 (Critical) APPROVAL AUTHORITY**</td></tr>
<tr><td colspan="2">10. Approve</td><td colspan="2">Disapprove</td><td colspan="2">11. Date of Signature</td></tr>
<tr><td colspan="3">12. Print Name</td><td colspan="3">13. Signature</td></tr>
<tr><td colspan="6">IMPACTED PeoplePlus BASELINE COMPONENTS</td></tr>
<tr><td colspan="2">14. Affected Items (include interfaces and documents)</td><td>Release Identifier</td><td>IS Version</td><td>See Cont. Page
Yes</td><td>No</td></tr>
<tr><td colspan="4">15. Description of Change Requested</td><td>See Cont. Page
Yes</td><td>No</td></tr>
</table>

[5] U.S. Environmental Protection Agency, PeoplePlus Configuration Management and Controls (Final), February 2003, Appendix D

PeoplePlus – Change Request (Page 2 of 2)			
16. Justification for Change/Impact if Change Not Made	See Cont. Page	Yes	No
17. Preliminary Impact Assessment (filled in by Change Analyst)	See Cont. Page	Yes	No

18. Change Analyst's Name (Print and Sign Name)	19. Date of Signature
20. CR Disposition Authority's Name (Print and Sign Name)	21. Date of CR Signature

22. Disposition (Add Justification for disposition other than Approve)			
	APPROVE		
	DISAPPROVE		
	REFER		
	DEFER		
	WITHDRAWN (By)		
	CANCEL		
	See Cont. Page	Yes	No

Appendix F Change Control Board Charter Template

This appendix provides a sample Change Control Board Charter template that may be used and/or tailored as appropriate according to project needs.

Change Control Board Template

Acceptance/Approval Page

DOCUMENT CHANGE HISTORY – *Complete the version, date, author and description column to accurately describe the modifications made to this document.*

Version	Date	Author	Description of Changes
V X.X			

1.0 INTRODUCTION

[This section introduces the document and explains in general terms why a CCB is necessary. Additional information may be added that describes the project background or description, and any specific policies or procedures. Example: The Change Control Board (CCB) Charter defines and describes the CCB functions and their relationships to the disciplines necessary to control the configurations. It documents the project's CCB activities and assigned responsibilities. This CCB Charter applies to all strict controlled Configuration Items (CIs) developed and maintained by the project team.]

1.1 PURPOSE

[This section provides more specific information on the reasons for establishing a CCB. Example: The CCB is established for each project to serve the following purposes:

- *Authorize the establishment of baselines.*
- *Authorize the addition of CIs to baselines.*
- *Represent the interests of all groups who may be affected by changes to the baselines.*
- *Authorize the creation of products from the baseline library.*
- *Evaluate and approve or disapprove proposed changes to strict controlled configuration items.*
- *Ensure implementation of approved changes.]*

1.2 MEMBERS

[This section states who will serve on the board. These may be divided into mandatory and advisory members. Example: The CCB consists of different groups related to the project. Members will include the following:]

Table 1-1. Voting Members

CCB Membership Groups	<Project Name> CCB Member
CCB Chairperson	<Name>
<Project Manager>	<Name>

Table 1-2. Advisory Members

CCB Membership Groups	<Project Name> CCB Member
<Program Manager>	<Name>
<Project Configuration Management Manager>	<Name>
<Project Quality Assurance Manager>	<Name>
<User Representative>	<Name>
<Client Project Manager>	<Name>
…..	…..

1.3 ROLES AND RESPONSIBILITIES

[Provide a chart that describes the roles and responsibilities within the group.]

Table 1-3: Members and Responsibilities

CCB Member	Responsibilities
<role>	• <responsibility> • <responsibility>
<role>	• <responsibility> • <responsibility>
<role>	• <responsibility> • <responsibility>
<role>	• <responsibility> • <responsibility>
<role>	• <responsibility> • <responsibility>
<role>	• <responsibility> • <responsibility>

2.0 CHANGE CONTROL BOARD ACTIVITIES

[This section provides a general introduction to and a list of the CCB's activities. Example:

The primary purpose of the CCB is change control for the duration of the project's lifecycle. Any member of the project or client staff can recommend changes or report defects. Change control ensures that all changes follow an orderly process for evaluating and implementing changes so that traceability and accountability are supported. The CCB must approve any change before it is implemented.

The CCB will perform the following activities:

- *Prioritize Change Requests (CRs)*
- *Schedule and convene CCB meetings*
- *Establish meeting agenda items and set meeting priorities*
- *Approve CRs*
- *Assign CRs to a release (if applicable)*
- *Reject CRs or place on hold and request further information/analysis*

- *Approve baselines*
- *Approve and distribute CCB minutes*]

2.1 APPROVAL

[Explain the process of approving CRs.]

2.1.1 VOTING INSTRUCTIONS

[Explain the voting procedure.]

2.1.2 QUORUM

[State how many voting members are required for a quorum.]

2.2 CCB MEETINGS

[This section explains how to conduct CCB meetings.]

2.2.1 PREPARING FOR THE CCB MEETINGS

[This section explains activities performed before the CCB meets. Example: The CCB Administrator will review and filter CRs for the CCB. In addition to the CCB Administrator, assigned project team member(s) may analyze and estimate the impacts of CRs prior to the CCB meeting.]

2.2.2 CONDUCTING THE CCB MEETING

[Describe what should be accomplished at each CCB meeting. Example: During the CCB meeting, attendees will:

- *Review new CRs*
- *Approve, reject, or defer CRs*
- *Prioritize and assign approved CRs to a release*
- *Reprioritize existing CRs, as needed*
- *Approve baseline packages.*

Action items will be opened for deferred CRs. A responsible individual and planned completion date will be assigned. Meeting minutes will be prepared and will contain the following information:

- *General status of topics covered during the meeting.*
- *Decisions made or agreements reached during meeting.*
- *Identify all action items assigned during the meeting and record the date assigned and to whom the action item was assigned.*

In addition, the status of CRs will be updated in the CR database.

2.3 EMERGENCY CCB MEETINGS

[This section explains how to adapt the procedure for emergency meetings. Example: *Occasionally, CCB meetings will be called on an* ad hoc*/emergency basis. Meeting agenda and minutes must be captured. The Project Manager will get the required approval as soon as possible. Any steps that were bypassed during the emergency proceedings must be completed as soon as possible or officially waived by the CCB at their next meeting.]*

3.0 ACRONYMS AND DEFINITIONS

Table 3-1: Acronyms and Definitions

Acronym	Definition
CCB	Change Control Board
CR	Change Request

Appendix G Sample Configuration Management Plan Template

This appendix provides a sample Configuration Management Plan template that may be used and/or tailored as appropriate according to project needs.

Configuration Management Plan Template

Acceptance/Approval Page

DOCUMENT CHANGE HISTORY – *Complete the version, date, author and description column to accurately describe the modifications made to this document.*

Version	Date	Author	Description of Changes
V X.X			

1.0 INTRODUCTION

[This section introduces the document and explains states the objectives and scope of configuration management for the project. Additional information may be added that describes the project background or description, and any specific policies or procedures.

1.1 PURPOSE

[This section provides more specific information on the reasons for establishing a configuration management system and processes for this project.

1.2 ROLES AND RESPONSIBILITIES

[Provide a chart that describes the roles and responsibilities within the group.]

Table 1-3: Configuration Management Roles and Responsibilities

Project Team Member	Configuration Management Responsibilities
<role>	• <responsibility> • <responsibility>
<role>	• <responsibility> • <responsibility>
<role>	• <responsibility> • <responsibility>

2.0 CONFIGURATION MANAGEMENT ACTIVITIES

[This section provides a general introduction to and a list of the configuration management processes to be implemented for the project.

General background information includes overview of activities, descriptions of interfaces with other project processes and other project teams (as applicable), and description of any tools used to support configuration management activities.

2.1 CONFIGURATION IDENTIFICATION

[Explain the process of defining and documenting the technical descriptions of a system or any of its discrete components throughout the project development. It includes selecting CIs and establishing baselines for CIs.] Topics to be addressed in this section include:

- *Configuration Items*
- *Lifecycle of Configuration Items*
- *Versioning*
- *Naming Conventions*

2.1.1 BASELINE DEFINITION

[Define the baseline for the project. A baseline is the act of capturing a snapshot at a given point in time of strict controlled items that is the basis of future development. Only strictly controlled CIs are baselined.

Creating and maintaining baselines allows for orderly development of a system throughout the project development lifecycle. Each new baseline and its associated changes collectively represent the evolution of the system during its lifecycle phases. The transition from one baseline to the next is characterized by the addition of one or more updates to the original baseline.]

2.1.2 CONFIGURATION MANAGEMENT LIBRARY

[The Configuration Management Library (CML) contains all Configuration Items (CIs) that are under configuration management control (e.g. code, system components, requirements documentation). To protect the integrity of the CML, a version control system should be used to store CIs and administer access rights.] Topics to be addressed in this section include:

- *Standard Directory Structure*
- *Physical Library*
- *Purging and Archiving Configuration Items*
- *Configuration Management Back-Up and Recovery*

2.2 CONFIGURATION STATUS ACCOUNTING

[The purpose of CSA is to maintain a continuous record of the status of all baselined items. This record is a useful management tool for planning and accomplishing all tasks related to implementing approved changes]. The information required for comprehensive CSA includes:

- *Baseline name, version, and designation*
- *Date each baseline was established*
- *Date when each CI and change was included in the baseline*
- *Description of each CI*
- *Status of each change request*
- *Description of each change.*
- *<Other Specifics>*

2.3 CONFIGURATION CHANGE CONTROL

[Configuration control is the systematic proposal, evaluation, coordination, approval or disapproval, and implementation of all approved changes to established baselines. All CIs, which constitute part of an established baseline configuration, will not be changed except by the following the formal change control procedures. Change control will be exercised throughout the project development lifecycle to provide an orderly process to manage proposed changes.]

2.3.1 CONFIGURATION CHANGE REQUEST

[Any member of the project or client staff can recommend or submit changes to the baseline. Change requests will be submitted using the Change Request (CR) form.] This section should define the process and include:

- *Method*
- *Procedures*

Change control ensures that changes to the CIs are known and are based on an orderly process for evaluating and implementing changes so that traceability and accountability are supported. Any change to a baseline must be approved by the CCB before it is changed or implemented.

2.3.2 CHANGE CONTROL BOARD (CCB)

[The CCB represents the interests of all affected groups who may be affected by changes to the baseline. The project's CCB Charter will define the scope and procedures for the CCB. The project's CCB Charter must define the membership of the CCB and assign a CCB Chairperson. Procedures include frequency of CCB meetings, a process for emergency CCB meetings, and priority and voting guidelines.]

Refer to the project's CCB Charter for the details on the purpose and scope of the CCB.

2.4 RELEASE MANAGEMENT

[The CM Manager controls the various development environments during all phases of the development and implementation. Each release is promoted from one environment to the next under the supervision of the CM Manager.] Items to be addressed in this section include:

- *Discussion of number and purpose of Environments*
- *Deployment Methodology*

2.5 CONFIGURATION MANAGEMENT (CM) AUDITS

[A CM Audit must be conducted to verify the contents of the project library, system and baselines. There are three types of CM audits to ensure compliance – physical audits, library audits and release audits.] Standard audit activities include:

- *A physical audit is performed before each system is integrated or deployed to ensure the integrity.*

- *A release audit is performed before each system build to ensure the integrity.*
- *A library audit is performed to verify the completeness and accuracy of the library's contents, and to review the structure and facilities of the CML. An audit of the physical library is also performed.*

The CM group will document issues encountered during a CM audit in the project action item log and track them to completion. If issues are not resolved in an appropriate amount of time, the issues will be escalated to the Project Manager. If the problems persist, the issues will be escalated to the QA Manager.

2.6 CONFIGURATION MANAGEMENT REPORTING

[The CM group creates reports documenting CM activities and the contents of the baseline.] These include:

- *CSA (Configuration Status Accounting) reports*
- *CM audit results*
- *<Other>*

3.0 ACRONYMS AND DEFINITIONS

Table 3-1: Acronyms and Definitions

Acronym	Definition
CCB	Change Control Board
CR	Change Request

Appendix H Sample Systems Project Configuration Items

The following table provides examples of hardware and software products as well as standard artifacts that are usually placed under configuration control for systems projects. These items are listed in the Product Column and the type of item is identified in the Type Column. The Configuration Control Column defines the level of control for each item and whether it is required to conform to existing EPA standards. The items listed below represent a basic set of items for a system project that should be placed under formal configuration control. Formal configuration control requires that changes to product baselines go through the formal change control process prior to being modified, since a change to a product baseline usually has an associated schedule or cost implication. If changes to documentation items are required due to a requested change in a product baseline, then approval for updates to the documentation should be considered as part of the change request review and approval process.

Informal control refers to a standard procedure for version control of a project artifact or project documentation. Additional guidance on document version control can be found in Appendix G in the *PMP-12 Document Management Procedure*.

Actual configuration items may vary by project depending on the specific hardware and software implemented as well as the scope of the project. Formal configuration management processes and items are detailed in a Configuration Management Plan for the project and developed in accordance with OEI's SLCM policy and procedures. The processes and changes to configuration items should be consistent with the formal change control process defined for the project.

H.1 Sample Project Configuration Items

Product/Document Name	Type	Configuration Control
Database/Batch/Web/Application Server	Hardware/Software	Formal/EPA Standards
File Server	Hardware/Software	Formal/EPA Standards
Development Client Workstations	Hardware/Software	Formal/EPA Standards
Database/Batch/Application Server Operating System	Hardware/Software	Formal/EPA Standards
Relational Database Management System Software	Hardware/Software	Formal/EPA Standards
Development Software	Hardware/Software	Formal/EPA Standards

Product/Document Name	Type	Configuration Control
File Server Operating System	Hardware/Software	Formal/EPA Standards
Application Software	Hardware/Software	Formal/EPA Standards
Reporting Software	Hardware/Software	Formal/EPA Standards
Automated Data Conversion/Interface Development Tool	Hardware/Software	Formal/EPA Standards
Automated Testing Tool/Functional Testing Software	Hardware/Software	Formal
Automated Test Scripts	Hardware/Software	Formal
Data Conversion Programs and Scripts	Hardware/Software	Formal
Data Conversion Reconciliation Queries	Hardware/Software	Formal
Requirements Management Tool	Hardware/Software	Formal
Change and Configuration Management Tool	Hardware/Software	Formal
Configuration Management Library/Software Development Tool	Hardware/Software	Formal
Job Scheduling Software (on batch server and/or file server)	Hardware/Software	Formal/EPA Procedures
Project Management Tools	Hardware/Software	Formal
Project Charter	Documentation	Formal
Project Management Plan	Documentation	Formal
Project Work Plan	Documentation	Formal
Integrated Project Schedule	Documentation	Formal

Product/Document Name	Type	Configuration Control
Configuration Management Plan	Documentation	Informal
Project Procedures	Documentation	Informal
Functional Requirements	Documentation	Formal
Requirements Traceability Matrix	Documentation	Formal
On-line customization design packages	Documentation	Formal
On-line program modules	Documentation	Formal
Design packages	Documentation	Formal
Reports design packages	Documentation	Informal
Data conversion execution plan	Documentation	Informal
Operator Security Procedures	Documentation	Informal
System Security Certification (EPA Security Group)	Documentation	Formal
Disaster Recovery Plan	Documentation	Informal
Integrated Concept of Operations	Documentation	Formal
Stakeholder and Communication Plan	Documentation	Informal